IN PURSUIT OF AMBIDEXTERITY:

MANAGERIAL REACTIONS TO INNOVATION-EFFICIENCY TENSIONS

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Abstract

Whereas tensions arising from the pursuit of ambidexterity have been documented, how these are interpreted and managed by actors themselves remains largely unexplored. Based on in-depth case research in a large Scandinavian based telecommunications organization pursuing ambidexterity, we identify a path-dependent process of tension interpretation and tension management at different levels of the organization. Our findings suggest that in the context of an ambidextrous strategy, actors are actively involved in managing arising tensions based on their differing interpretations of these tensions (where ambidextrous demands are seen as complementary, conflicting or interrelated). We find that these interpretations are influenced by actors' strategic orientation and organizational level. Our study extends understanding of the pursuit of ambidexterity in practice, offering a pluralist, path-dependent perspective of how actors perceive and deal with ambidexterity tensions.

Keywords: Ambidexterity; exploitation; exploration; organizational tensions; case study

Introduction

A persistent challenge in organizational theory is the ability of a firm to both exploit its current capabilities and explore new ones in order to ensure both efficiency as well as growth (Duncan, 1976; March, 1991; Raisch et al., 2009). Whereas trade-offs between these two goals have often been considered insurmountable, research on organizational ambidexterity has shown that the simultaneous pursuit of exploration and exploitation is both feasible and beneficial to organizational performance (He and Wong, 2004; Jansen et al., 2009; Tushman and O'Reilly III, 1996). Based on the metaphor of ambidexterity, as the capability of being equally dexterous in different and often conflicting tasks, scholars argue that ambidextrous organizations can meet their innovation goals without affecting negatively the competitive performance of their existing business (O'Reilly III and Tushman, 2004). Ambidextrous organizations are accordingly defined as those capable of "simultaneously exploiting existing competencies and exploring new opportunities" (Raisch et al, 2009: 685).

Following March's (1991) seminal article viewing exploration and exploitation as opposing learning processes, researchers have proposed structural or contextual configurations aiming to resolve the attendant tensions in organizations that pursue ambidexterity. Resulting studies, however, offer limited understanding of the processes of ambidexterity in practice (Nosella et al., 2012; Raisch et al., 2009). The question of how tensions of ambidexterity are managed by actors remains largely unexplored in terms of a processual, fieldwork-based perspective (Bledow et al., 2009; Cantarello et al., 2012). Gaining a deeper understanding of ambidexterity processes in practice, and how actors experience these processes has been argued by scholars to be central for further development of this field (O'Reilly III and Tushman, 2011).

Following this call, our research question is: *How do individuals at different organizational levels interpret and manage tensions stemming from the pursuit of ambidexterity?*

Following March's (1991) view of exploration (as related to innovation) and exploitation (as related to efficiency) we explore the conflicting demands of innovation and efficiency that arise from the pursuit of ambidexterity in Telco, a large Scandinavian-based Telecommunications organization. Pursuing a corporate strategy of both innovation as well as efficiency was a challenging balancing act for Telco, as innovation involves creative thinking and exploratory, non-routine actions whereas efficiency depends on routine, standardized processes giving rise to exploitation of skills and knowledge (Bledow et al., 2009). The complexity is increased given that innovation can have differential magnitude (from radical to incremental) and involves both an actor (an individual, a group, an organization) in relation to the environment in which the actor operates (Gupta et al., 2007). The pursuit of both innovation and efficiency, also referred to as 'ambidextrous strategy' (Sarkees and Hulland, 2009) in Telco was thus inextricable from the need to manage resultant tensions arising at different levels (Turner et al., 2013).

We explore tensions that arise from the simultaneous pursuit of innovation and efficiency at two organizational levels (senior management, and middle management/operations). Our findings suggest that when following an ambidextrous strategy, actors are actively involved in managing arising tensions through a process of tension interpretation based on their strategic orientation and organizational level. Different perceptions of the relationship between innovation and efficiency (these being complementary, conflicting or interrelated), result in different management approaches (integration, temporal balancing, or separation). By identifying a path dependent process of how tensions of ambidexterity are interpreted and managed by different organizational groups, we contribute to the debate of how ambidexterity is pursued in practice, and how organizations attempt to build an ambidextrous capability (Bledow et al., 2009; Cantarello et al., 2012). This study adds value by demonstrating the emergence of tensions and the nested nature of the exploration and exploitation tensions. Furthermore, our findings showcase how the overarching context the firm and individual actors are embedded in impacts the interpretation and management of exploration and exploitation tension. As literature on ambidexterity is shifting towards the importance of agency in the pursuit of ambidexterity (Mom et al., 2009; Nosella et al., 2012; Simsek, 2009) improving our understanding of how ambidexterity tensions are experienced and managed in practice through a path dependent process is a significant step both in advancing theory, as well as towards achieving ambidexterity. The following section discusses the main approaches to ambidexterity proposed by the literature as well as the underlying assumptions of these propositions.

Approaches to Ambidexterity

Whereas the term ambidexterity was originally employed by Duncan (1976), growth in interest in this concept has been spurred by March's (1991) article describing exploration and exploitation as two fundamentally incompatible activities leading to organizational tensions as they compete for scarce resources. However, March (1991) underlined the need for a balance between the two for superior organizational performance and in later work suggested that firms overemphasizing either exploration or exploitation risk falling into failure or success traps (Levinthal and March, 1993).

Structural separation. Based on the premise that the culture of incremental innovation often creates institutional hostility towards discontinuous innovation and that both are competing for scarce resources, Tushman and O'Reilly III (1996) argue for separate structures within the same organization to accommodate what are argued to be opposing competencies, systems and practices of exploration and exploitation. Exploratory units are conceived as small, decentralized, and with loose processes in contrast to exploitative units that are described as larger, centralized and with tighter processes (Benner and Tushman, 2003; Tushman and O'Reilly III, 1996). O'Reilly III and Tushman (2004) emphasize the role of the top management team as the "corporate glue" that holds the organization together by managing the tensions that arise between exploitation (incremental innovation) and exploration (discontinuous innovation).

In an effort to respond to the need for integration mechanisms between structurally separated units, further research has focused on social and behavioral integration of the top management team in ensuring strategic coherence and balanced resource allocation (Lubatkin et al., 2006). Shifting the focus on integration to middle management, Jansen et al. (2009) argue for the use of cross-functional interfaces (such as liaison personnel, task forces and teams) as a means of enabling knowledge exchange within units that manage exploration and exploitation. At the group level, Fang et al. (2010) argue that exploration and exploitation can be successfully managed through semi-autonomous subunits with a small fraction of cross-group links such as inter-team liaison roles, personnel rotation or interdivisional task forces.

Parallel structures. Raisch and Birkinshaw (2008) also underline the use of parallel structures as an alternative structural approach to spatial separation. Parallel structures, in the form of secondary structures such as project teams or networks, allow organizations to switch between structures according to needs for exploration or exploitation in the context of a single business unit. Parallel structures have also appeared in the literature in the form of collateral organizations (Zand, 1974) or shadow organizations (Goldstein, 1985). Whereas parallel structures are considered a useful solution to the threat of isolation between structurally separated units (Devins and Kähr, 2010), the concept has not been further explored in the context of organizational ambidexterity.

Temporal balancing. Other approaches to managing exploration and exploitation tensions suggest the use of temporal separation whereby an organization sequentially shifts between phases of exploration and exploitation (Jansen et al., 2005). Temporal balancing, defined as long periods of stability punctuated by short revolutionary changes (Devins and Kähr, 2010), is advocated in cases of major disruptions in a firm's competitive environment (Volberda, 1996) or more recently as an alternative to the simultaneous approach to balancing exploration and exploitation (Siggelkow and Levinthal, 2003; Geerts et al., 2010). The organizational structure during temporal balancing is argued to shift from a mechanistic structure (focusing on centralization) to an organic structure (allowing decentralization) as organizations move from exploitative to explorative phases respectively (Devins and Kähr, 2010). The concept of punctuated equilibrium envisages organizations' movement between periods of exploration and periods of exploitation (Gupta et al., 2006; Simsek, 2009), adopting a discontinuous approach to how organizations respond to change (Güttel and Konlechner, 2009). Similarly, Burgelman (1991) in his research at Intel Corporation argued for a sequential approach to exploring and exploiting, while Boumgarden et al. (2012) refer to "organizational vacillation" to describe firms' dynamic capability of temporally and sequentially alternating between periods of exploration and exploitation. These findings highlight the crucial role of time in relation to how organizational ambidexterity is conceptualized, and the importance of longitudinal data for exploring how exploration and exploitation tensions evolve over time (Uotila et al., 2009).

Contextual approach. Building on Ghoshal and Bartlett (1994), the contextual approach conceives of ambidexterity as emerging through a business unit's organizational context, involving the combination of performance management with stretching targets combined with supportive values and processes to help individuals reach these targets (Gibson and Birkinshaw, 2004). Whereas in their study Gibson and Birkinshaw (2004) define ambidexterity as an organizational capability that can be built within the same unit - arguing that a unit can become ambidextrous - the behaviors identified as ambidextrous, relate more to certain managerial tasks rather than everyday behaviors and challenges that organizational actors have to deal with. Jansen et al. (2005) support empirically the argument that organizational units can overcome tensions and pursue exploration and exploitation simultaneously with a positive relation to performance. Brion et al. (2010) further underline the role of risk taking and creativity in creating an organizational context that balances both short term focus and long term adaptability. Güttel and Konlechner (2009) finally describe an approach to contextual ambidexterity based on the existence of an integrative frame of reference between top management teams and employees that provide a social foundation for moderating conflicts.

The role of individuals: The missing link?

Research on organizational ambidexterity has acknowledged the central role of individuals. According to Birkinshaw and Gibson (2004), ambidextrous behavior is characterized by individuals' ability to take initiative and recognize opportunities outside one's field of expertise; the search for cooperation; the ability to hold multiple roles; and the ability to identify potential synergies. In a similar vein, Mom et al. (2009) define ambidextrous managers as multitaskers, able to host contradictions and to refine and renew their knowledge, skills and expertise.

Focusing on the cognitive mechanisms for managing contradictory demands at the individual level, Eisenhardt, Furr and Bingham (2010: 1263) argue that organizational actors can accomplish what they call "cognitively sophisticated, single solutions" while simultaneously holding dual, contradictory tensions. Smith and Tushman (2005) argue for the development of paradoxical cognition that can enable senior managers to deal with the contradictions of explorative and exploitative innovation. O'Reilly III and Tushman (2008) define ambidexterity as the paradoxical capabilities of senior management, manifested as a set of senior team decisions including structure, linking mechanisms, culture and senior team processes (see also Smith et al., 2010; Lewis et al., 2014). Finally, Adler et al. (1999) identified "switching" as a coping mechanism used by employees in the Toyota production system that allowed them to perform tasks that were either systematic and predictable or flexible and novel. Whereas these studies shed some light on the role of individuals in ambidextrous organizational settings, key issues relating to how tensions from the pursuit of ambidexterity are experienced in practice remain largely unexplored.

Exploration-exploitation tensions: Contradictory or complementary?

Based on March's (1991) work, research on ambidexterity has typically viewed exploration and exploitation as two ends of a continuum, where the poles compete for scarce resources and ambidexterity involves opposing organizational capabilities. However, further research questioned the inherent contradiction between exploration and exploitation, suggesting that rather than being two ends of a continuum, they can be seen as orthogonal to each other depending on the focus on a single or multiple levels of analysis (Gupta et al., 2006). In this context exploration and exploitation can be viewed as interrelated processes, where organizations can maintain a high level of both activities and no pursuit of balance between the two is needed (Lubatkin et al., 2006).

Cao et al. (2009) explore this fundamental conceptual difference when they distinguish between the balanced and the combined views of ambidexterity and underline the potentially positive effects of exploitation on exploration as a "high degree of exploitative effort can often improve a firm's effectiveness in exploring new knowledge and in developing resources that support new products and markets" (p.784). Lavie, Stettner and Tushman (2010) also highlight this potentially positive relationship between exploration and exploitation in terms of knowledge application where the newly acquired knowledge (exploration) soon becomes exploited (exploitation) as the organization integrates it in its main operations.

*The view from Paradox***.** The paradox perspective has been explored and developed by ambidexterity scholars as a useful lens for understanding the complexity of organizational life by overcoming simplified polarizations (Andriopoulos and Lewis, 2009, 2010, Ingram et al., 2008, Martini et al., 2013). The paradox perspective suggests that tensions may be viewed as persistent, opposing but interconnected poles, as dualisms rather than dualities, encouraging reframing of paradoxical tensions to accomplish synthesis or transcendence (Papachroni, Heracleous and Paroutis, 2015). Paradoxes are defined as "contradictory yet interrelated elements that exist simultaneously and persist over time" in states of dynamic equilibrium (Smith & Lewis, 2011: 382). Andriopoulos and Lewis (2009) for example identify three paradoxes of innovation that consist of competing poles that exist in dynamic equilibrium. They provide evidence that tensions of ambidexterity operate across organizational levels, and that a mix of integration and differentiation strategies can be pursued to manage such tensions. These differing perspectives on the relationship between exploration and exploitation raise some interesting questions about whether there is a necessary conflict within these two processes and under which circumstances. Further, this discussion raises the question of how agents themselves perceive the relationship between exploration and exploitation, and under what circumstances they might perceive it as a relationship of complementarity, separation or conflict.

Methodology

In order to explore how tensions stemming from the pursuit of ambidexterity are interpreted and managed by actors we adopted a case study approach. We selected Telco, a large Scandinavian based Telecommunications company, through theoretical sampling. Apart from providing theoretically relevant results (Yin, 2009), theoretical sampling is "transparent" in the sense that it makes the subject of enquiry "easily visible" (Eisenhardt, 1989). In order to meet the dual demands of efficiency and innovation faced in common with other high technology firms (Chandrasekaran, Linderman and Schroeder, 2012) the organization had been undergoing a restructuring process and was by the time of the research in the midst of change. A key goal was to accomplish a shift towards making innovation a priority within the whole organization.

We conducted the research in two phases, spanning a period of 22 months: Phase A took place from November 2010 to July 2011 and phase B from September 2011 to September 2012[1]. We carried out 30 semi-structured interviews with executives from various levels of the organization both at UK local offices as well as in the company's headquarters in Scandinavia. Participants were responsible for key areas of the Global Services segment of the organization (such as operations, strategy, communications and new business development). Global Services was Telco's largest business unit accounting for more than 40% of total net sales (Annual Report, 2012). We employed a "snowball" technique where each interviewee proposed other members of the organization who could offer further insights. Interviews lasted an average of 60 minutes each and the discussion was based on an interview structure that addressed key themes of the research. We also analyzed publicly available archival data covering the company's history and strategy for the previous 10 years, and internal documents such as company reports and marketing material. Visits to the local offices as well as the Global Headquarters allowed for

[1] The Appendix provides an overview of data sources.

non-participant observation and provided useful insight on Telco's working environment and culture.

Data analysis. Following the premise that new theory could be developed by paying careful attention to the contrast between "the daily realities (what is actually going on) of substantive areas" (Glaser and Strauss, 1967: 239) and the interpretations of those daily realities by actors, we focused our analysis on actors' interpretive processes (Suddaby, 2006), in particular how they interpreted and managed tensions of –innovation and efficiency. We employed grounded theory as a method of analysis (Bamford, 2008; Galunic and Eisenhardt, 2001; Lee et al., 2000; Rindova and Kotha, 2001), in three stages as outlined below.

Stage 1. In order to stay as true to actors' first order perspectives as possible, we analyzed each interview in depth employing open coding (Corbin and Strauss, 2008). We identified a large number of codes (themes related to new strategy, leadership, change efforts, organizational processes prior and following the new strategy, innovation and efficiency goals, perceptions around of the new strategy and goals, management strategies, organizational culture, and organizational structure). We repeated the process of open coding until saturation was reached, that is, no further themes were identified. Through the use of NVivo software we categorized the large number of initial codes into broader themes (tree nodes). Gradually these categorizations were refined in an emergent fashion into first-order categories, constituting second-order themes, in turn constituting aggregate theoretical dimensions (Gioia et al., 2012). Upon concluding this first stage of analysis we wrote a detailed case narrative, describing the change efforts that were taking place at the time, the new strategy that was being introduced and other relevant contextual factors (organization's history, culture and embedded values) that informed subsequent analysis in terms of the management of innovation-efficiency tensions. At this stage, similarities and differences between organizational actors' interpretations, actions and their organizational level begun to emerge.

Stage 2. Building on insights from the first stage of analysis, the second stage aimed at further exploring in depth the dimensions and properties of emergent categories and concepts. At this stage we conducted axial coding which involved linking themes to contexts, to consequences, to patterns of interaction and to causes (Corbin and Strauss, 2008). We identified different interpretations of tensions in the context of particular aspects of Telco's strategic orientation (defending existing business, growing existing business and exploring new opportunities for growth) and organizational level (operations / middle management and senior management). Exploring further interconnections between concepts allowed a higher order categorization of initial codes into main themes and an emerging view of how these themes were interrelated. The insights and emergent themes from the two stages of data analysis informed the second phase of data collection where we clarified, enriched and validated findings with key informants.

Stage 3. At this final stage of analysis we were able to more clearly link different interpretations of ambidexterity tensions with how actors attempted to manage these tensions, each adding a piece of the puzzle of how organizational tensions can co-exist and interact within and across organizational levels. We conducted selective coding which focused on the interrelations of key themes by selecting core categories, systematically relating them to other concepts, validating those relationships and filling in categories that needed further refinement and development (Corbin and Strauss, 2008). We compared findings to pre-existing theory leading to more theoretically informed analysis. At this point our analysis was organized around two main axes: tension interpretation (how tensions were interpreted at each level) and tension management (how these were managed by actors).

In order to examine the robustness of our coding structure, we used a negotiated agreement approach since our research is exploratory in nature and employs primarily semi-structured interviews (Campbell et al. 2013; Garrison et al. 2006; Morrissey, 1974). Two coders in addition to the initial coder were trained in the coding scheme and coded a sample of our dataset. The initial agreement level of 75.5 percent using negotiated agreement was raised to 93.3 percent, which is in line with acceptable levels in this kind of research (Garrison et al. 2006). The following section presents our findings.

In pursuit of ambidexterity: The case of Telco

Telco is one of the leading suppliers of telecommunication equipment, multimedia and related services across the world, with over 100,000 employees. The company operates within an environment of intense competition in all of its segments (network equipment, professional services, multimedia). Faced with increased competition and diminishing profit margins in offering standalone products in mature markets, one of the biggest challenges for Telco has been how to balance the need for efficiency while at the same time explore new opportunities for growth. This dual demand was expressed by the company's strategy: to capitalize on existing competencies to find new opportunities for growth while maintaining operational efficiency (Annual Report, 2010). However, this dual demand added a level of complexity within the organization in terms of how it was communicated and perceived. As a senior manager noted:

> *Leading a large organization is all about simplicity, one message, not more. These are two messages right there conflicting and people sense that and then yes that creates frustration and pockets in the organization. So not everybody can be happy every day with that type of added complexity. It's a little bit more difficult to explain in the organization and have the organization to work smoothly in that manner.*

A series of strategic decisions reflected the need for operational excellence as well as the pursuit of new opportunities for growth. In 2010 Telco underwent a profound organizational restructuring ("regionalization") which meant consolidation of 23 market units into 10 regions across the world in an effort to increase efficiencies and explore new opportunities for growth by having a more customer-focused approach.

INSERT TABLE 1 ABOUT HERE

This restructuring also reflected Telco's efforts to consolidate its shift from a purely technologically, product driven company towards a service organization, in a position to provide wide-ranging communication solutions to customers. In 2010 Telco was one of the 10 biggest IT services providers in the world by revenue (Annual Report, 2010). Whereas the company's strong position in the market had been based on operational excellence, reliability and efficiency, increasing competitive pressures necessitated the pursuit of new product-markets, a solution orientation, and new ways of doing things. Market and insight driven, process innovation therefore became a key strategic priority. Contrary to technological innovation, this type of innovation was no longer the sole responsibility of the R&D department but was promoted throughout all levels of the organization, through the company strategy as well as a series of internal processes. Innovation was put forward as a key strategic priority for the whole organization, supported by the company mantra "Innovate Everyday" and an internal communications strategy evolving around the key message of "It begins with us". With this organized attempt to build a distributed innovation capability, the top management team aimed at promoting employee engagement and making innovation everyone's responsibility through a layered model of innovation, where each level was responsible for addressing the opportunities arising within its scope.

This new approach to innovation (also supported by the organizational restructuring that decentralized responsibility for innovation across the regions), demanded a view of innovation as distributed across the organization rather than simply arising from R&D efforts. However, shifting towards a new type of innovation within a traditionally engineering-focused organization was a challenge for Telco. As the Global Director for New Business Development and Innovation explained:

> *In the past possibly there have been parts of the organization responsible for innovation…But suddenly it's not only the R&D because everybody needs to do that. And, yes, then it becomes a challenge because you're kind of shifting a little bit the culture … the heroes in a technology driven company are the kind of core engineers but now we need to celebrate other heroes that are doing process innovation or sales channel innovation or listen to the customers … So innovation suddenly becomes much broader in scope.*

Being efficient today while also fostering product and process innovations for long-term growth in a competitive environment where the convergence of technologies and platforms, the growing need for mobility and the technological advances fundamentally change the ways in which businesses and consumers interact with digital content, was a challenging task. Dealing with the conflicting demands of encouraging innovation while maintaining focus on current business tasks became a strategic priority for all organizational levels. As the Director for New Business Development and Innovation describes:

> *There is no easy way to say that okay over here we're focusing on efficiency and over here they're innovating. It's kind of a complex relationship here between efficiency on one hand, and innovation and looking into new things on the other hand. So there's always innovation in efficiency and there is efficiency in innovation.*

This complex relationship between innovation and efficiency shifted our attention towards individuals' understandings and interpretations at different organizational levels.

Interpreting ambidexterity tensions at different levels

The organizational restructuring and the new strategy that was introduced to Telco acted as a trigger for the emergence of latent tensions of innovation and efficiency throughout the organization (Smith and Lewis, 2011). Our initial analysis revealed that actors demonstrated a variety of interpretations of the innovation-efficiency tension, ultimately influencing how ambidexterity was pursued in practice. These interpretations resulted from actors' efforts to cope with the tensions through reconceptualizing them. This process was shaped by where the actors were situated in the organization and their strategic orientation.

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At the more operational levels, where actors engaged in delivering to customers within tight deadlines and specifications, service, business model or strategic innovation seemed alien, unattainable goals. The pragmatic response was to interpret innovation as higher levels of operational excellence and efficiency (what has been labeled as process innovation in the literature), to address the needs of existing customers. Innovation here was seen as a means to higher efficiency, with the two poles seen as complementary. At higher organizational levels, where actors had the opportunity, as well as the pressure to be more strategic, innovation was interpreted more expansively, as involving new types of organizational configurations that can open new avenues for business growth. An appreciation of the level of investment and managerial energy needed to accomplish these kinds of innovation, however, led to the view at the senior management level that the two poles were conflicting or interrelated, rather than complementary. As a result of our analysis three main relationship types between innovation and efficiency were identified:

- *Complementary (Operations / middle management level):* Through conceptualizing innovation as a process of continuous improvement, at this level the relationship between innovation and efficiency was considered complementary, “a means to an end”, and was embedded within everyday practice.
- *Conflicting (Senior Management):* Here innovation and efficiency were perceived as conflicting to each other, based on the need for competing resources and a tension between the present and a future orientation. There was a perception of high levels of tension, which was resolved through temporal separation.
- *Interrelated (Senior Management):* Here both activities were perceived as distinct but equally necessary. There was a perception of moderate tension, which was managed through structural separation (parallel structures).

These three relationship types corresponded to three main strategic orientations within Telco. Firstly, defending existing business (at the operations/middle management level); secondly, growing existing business; and thirdly, exploring new opportunities for growth (at the senior management level).

Middle management / operations level: Tensions of innovation and efficiency as complementary

Emergence of latent tensions. At the middle management/operational level of Telco, employees were responsible for delivering complex professional services for the ICT sector and were continuously urged to increase the levels of efficiency through constant monitoring and tight targets. At the same time, faced with intense competition and increasing demands from the customers, innovation emerged as a key theme within the organization as a way for delivering greater value to the customer. However, the lack of clear definition in terms of what innovation meant for middle management /operational level of the organization led to tensions around the scope and type of innovation that was now demanded:

> *One of the problems that we have here is if you look at our business, if you say to people I need to innovate some of the ideas, they kind of go "I need to think of something radical, I need something radically different* (Chief Operating Officer, Managed Services)

Within this context, organizational actors perceived efficiency and innovation as incompatible since "innovate everyday" was in contrast to the organizational processes of billability in terms of accounting for one's time and focus on efficiency. Indeed the lack of incentives and of a supportive organizational context that would enable flexibility and pursuit of differentiation created a hostile environment towards innovation.

> *There's no time, so we don't set aside any time for it, we just hope our people will bother to go and put their ideas into this system… And to have engagement you have to have a culture of innovation and we don't have that. We do not have that at all because we work for the customer, priority is the customer, we are billable… you have to time report* (Innovation Program Manager).

Although market and insight-driven innovation was considered a key strategic priority, this was in tension with Telco's deeply rooted cultural values of viewing innovation as primarily technology oriented, to be carried out by the R&D department. This tension in terms of the nature of innovation often led to frustration and singular focus towards efficiency as organizational actors felt far away from true innovation ("this is not R&D", "we don't built products") and considered innovation as having little or no relevance to their working reality:

> *It's kind of difficult because we need the leadership team to really drive what is that key message that we are meant to be saying and "innovate everyday" I think it's quite tough for some Telco*

businesses.... So the brand that they [leadership team] want and the innovation they want don't actually tie up with your day-to-day reality (Internal Communications Manager).

Tension interpretation. Whereas the formal organizational process for innovation had limited success due to the lack of clear scope and supportive organizational context, another type of innovation was taking place within the middle management and operational level. This type of innovation emerged through the need to overcome internal tensions and confusion and was more narrowly defined, as any idea or process that would enhance efficiency. This conceptualization of innovation was very much goal oriented, driven by the need to defend existing business by providing solutions to the customers that were both innovative and cost efficient. Innovation therefore was seen as a means to an end, as a tool towards operational excellence that was considered vital for defending existing business. Innovation as a process of continuous improvement emerged in addition to the traditional view of innovation in Telco as linked to technology and R&D. Rather than searching for entirely new offerings; innovation was enacted as based on existing competencies for existing customers.

In the service organization, innovation is how you do things quicker, with less effort, minimizing risk to continuously improve… in that context, innovation is more about how can we do things better, smarter, quicker, deliver better quality, less people, lower cost, improved customer service, all of those sort of drivers, so as much…there is rather…it's a rather quite focused context (Head of Design and Integration, Managed Services).

The tension of pursuing innovation while maintaining efficiency was at the middle management /operational level resolved through transforming it into a more workable entity consistent with actors' everyday work life, and based on the linkages between the two poles (Andriopoulos and Lewis, 2009; Lewis, 2000). Innovation in this context (mostly in the form of process innovation) was perceived as *complementary* to efficiency.

They complement each other. Some of the best innovations I have seen is how people have chopped time off so they have said this takes four days, I can get it done in two days and yes, so they are totally complementing each other. I think people begin to understand that because the culture here is if it takes longer, you're not doing it right (Device Application Engineer).

Tension management: Integration. This complementary relationship between continuous improvement and operational efficiency was integrated within everyday practice.

So to make that work, it's not just through something called innovation scheme, which is a bit radical, standup, I've got a great idea, stuff. It's also through day-to-day and the way you work. It's a process of continuous improvement. And there are big leaps and small leaps but it's all new ideas incorporated and integrated and getting people working together to flush out the better ways of doing things to optimize things (- Managed Services Chief Operating Officer).

Viewing innovation as part and parcel of everyday work made it however difficult to define, capture and measure. In this context most innovations taking place at the middle management / operational level was either tacit, or not considered worthy of communication.

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Senior Management: Tensions of innovation and efficiency as conflicting

Emergence of latent tensions. At the senior management level of senior management, the tension between innovation and efficiency emerged from having both a present and a future orientation, competing on the present but having an eye on the future in terms of growing the existing business (Abell, 1999). This dual orientation was particularly challenging as this zooming in and out depended upon managers' taking some distance from everyday operations that would allow them to explore possible opportunities for the future. However, such a perspective on innovation was seen to be in conflict with everyday operations that followed tight processes for maintaining internal efficiencies:

> *If you're too focused on the present then the first thing that will get dropped will be any form of innovation, because you're on the treadmill and the process says what should cost this week and what should cost next week and the week after, don't give me any of that innovation shit just get on with doing what you're supposed to* (Vice President, Managed Services).

This central tension between short and long-term orientation was manifested as a number of sub-tensions (tensions that were seen as pertinent by a particular organizational level) that derived from the need to respond to demands from multiple stakeholders. These sub-tensions were the need to balance proactiveness and reactiveness (in Telco's relationship with customers), dealing with both structure and freedom (in managing the internal demands for both innovation and efficiency), and managing the relationship between predictability and uncertainty (in terms of gaining trust and credibility within the organization in order to justify the different resource allocation or investment for innovation and implement the necessary changes).

Tension interpretation. At the senior management level there was a higher level of complexity as the aim was that new organizational configurations, or new knowledge, would be adapted to growing business with existing customers and markets. Innovation here was interpreted as service innovation or business model innovation to grow existing business. This approach to innovation was mostly linked with a notion of continuous *change,* contrary to continuous *improvement* that characterized innovation at the operations/middle management level. Indeed, the focus on growth through business model or service innovation was seen as incompatible with the interpretation of innovation as the pursuit of efficiency at the operational level. Senior managers faced with the task of growing existing business described the relationship between efficiency and innovation as conflicting, based on scarce resources and the need for different capabilities to pursue each goal. In this context reconfiguring competencies and organizational models was considered conflicting to maintaining focus and pursuing efficiency.

> *It is a paradox. I view it every day in my work. It's how I call it the short-term goal and the long-term goal; there is always a conflict there. When profitability is under pressure you focus on efficiency and not so much innovation and that's what we are struggling with now.* (Regional Manager Strategy and Regulatory Affairs)

Tension management: Temporal separation. Senior managers who pursued innovation activities within an efficiency-oriented environment managed the tensions between the opposing processes through temporal separation, locating efficiency and innovation in different time frames (periods of focus on efficiency followed by periods of higher focus and investment on innovation).

> *I think it's all about balance and sometimes you have to lean more to one way than the other. I mean you got to have that kind of efficiency and drive…to drive something sustainable. And at the same time, you need to focus on innovation so you're probably doing different pockets in different times* (Customer Unit Head, UK and Ireland).

The process of implementation was also described as sequential (brainstorming, selecting, implementing).

> *So I don't think we'd ever be in a position where we'd just be willy-nilly changing our day-to-day deliveries just because someone's had a great idea. So I think we can innovate and come up with loads and loads of ideas, pick the top two or three and implement them, become more efficient, ..like a circle, isn't it?* (Vice President, Managed Services and Outsourcing).

At the same time, this sequential process was also influenced by broader organizational constraints, such as resource allocation and corporate strategy.

> *It all happens in cycles… there were times where there was some budget available for long-term investment for innovation and then suddenly, when the crisis hit, somebody said we cut*

everything. So it's either running or standing still. In cycles. Sometimes there is a willingness to invest a lot and sometimes there is willingness to invest nothing. So initiatives get killed and everything you have invested in is gone. (Regional Manager Strategy and Regulatory Affairs)

INSERT TABLE 3 ABOUT HERE

Senior Management: Tensions of innovation and efficiency as interrelated

Emergence of latent tensions. Based on this different conceptualization of innovation at the senior management level, as exploring opportunities for growth, a central tension emerging from the analysis was the issue of scope. The tension arose from the need to simultaneously balance the exploitation of current operations with an exploration of future ones. Telco explored new opportunities for growth through selling ICT services and technology to markets outside its traditional markets, for example to the government, transport or security sectors. Shifting attention towards these markets reflected the organization's pursuit of becoming a communication solutions provider, a newly introduced vision for the company at the time of the study. Heavy dependence on traditional markets however made this shift a challenging one. A senior manager described the internal barriers:

> *…organizations like Telco that have been traditionally involved in a particular industry segment for as long as they have, gained dependency from that industry segment…The major challenge is convincing the organization that there is a business there… they are uncomfortable with new things. They don't understand how a new organization like the Red Cross could even use communication*. (Director, Strategy and Business Development, UK-Ireland).

A number of sub-tensions emerged from the need to balance current and future operations at the senior management level. These were the need to find a balance between integration and separation of the different business units and to deal with issues of reintegration and internal antagonism. Second, a tension between new competencies needed to compete in new sectors, versus traditional competencies and their historical legitimacy.

Tension management: Structural separation. In pursuing new opportunities for growth Telco maintained a balance between structure and freedom, which we label "controlled exploration". Here both activities were perceived as distinct but equally necessary. There was a perception of moderate tension, which was managed through structural separation (parallel structures). More specifically, a specific number of market opportunities to be explored were determined by Telco's Global Leadership Team. In order to accommodate tensions between traditional and new business areas, Telco initially pursued innovation opportunities through structural separation. This separation aimed to provide the necessary conducive organizational context for new opportunities to be explored before they got choked by the traditional way of doing business. As a senior manager explained:

> *If you want something else to happen you must protect it from that normal business, if it's radical and if it's new and if it's different* (Global Director, New Business Development and Innovation).

This process towards innovation allowed the company to both explore new opportunities and also maintain control through pursuing a specific number of market opportunities where it could have a quick return on investment. These were explored through pilot projects that operated within a specific timeframe and with a goal of assessing an opportunity that would at a later point be integrated into the operations of the main organization. However, this structural separation was based on parallel structures that were not fully isolated from the rest of the organization. Close collaboration was pursued between the top management team charged with the responsibility of strategic co-ordination, and the regions. For this purpose pilot directors were not based at headquarters but were spread throughout the regions and worked closely with regional senior management. As a pilot project director explained:

> *So we have monthly calls with all the regions where we go through and we say that's interesting, that could be part of the pilot. Maybe I can support it, may be, I cannot support it.. can you pursue it on your own? Good, you're blessed, you know, but you're within these seven vertical markets, you're okay, they are not in violation with the CEO's order of not doing anything else outside the pilot* (Services Sales Director).

As these parallel structures did not operate in complete isolation from the rest of the organization a new tension was emerging from the need to pull the necessary resources from the organization during the exploration phase, and introducing new areas for growth within a conservative cultural environment during the implementation phase. Whereas exploring new vertical markets was a clear strategic priority at the top management level, lower levels of the organization had little or blurred idea about what this new strategy was or how it could be achieved, especially in their organizational environment, dominated by the need for efficiency and operational excellence. In this context, a key issue for senior management was managing organizational inertia and also strong internal silos.

INSERT TABLE 4 ABOUT HERE

Discussion

As Andriopoulos and Lewis (2009), and Simsek (2009) argue, a multilevel approach would be vital in reinforcing and sustaining organizational ambidexterity. Tensions of ambidexterity, however, are usually explored at the organizational or business unit levels without examining further how different levels of the organization might interpret and balance these tensions (Birkinshaw and Gupta, 2013; Raisch and Birkinshaw, 2008). As a result, key issues regarding how ambidexterity is achieved and sustained in practice, at different organizational levels, have remained largely unexplored (Cantarello et al., 2012; Nosella et al., 2012).

Nested tensions of ambidexterity. Our study complements Andriopoulos and Lewis' (2009) findings by extending our understanding of how actors interpret and deal with ambidexterity tensions. In the case of Telco, our findings suggest that the pursuit of ambidexterity at the organizational level spur the emergence of latent tensions in different organizational levels, supporting the view of ambidexterity as a "nested system" of tensions that occur across levels (Andriopoulos and Lewis, 2009; Birkinshaw and Gupta, 2013; Jarzabkowski et al., 2013). Whereas Andriopoulos and Lewis (2009) viewed ambidexterity as the accomplishment of both incremental and radical innovation, we operationalize ambidexterity as the interrelationship between innovation and efficiency. Further, whereas Andriopoulos and Lewis (2009) found that integration and separation tactics are used to deal with nested ambidexterity tensions, we found that actors' interpretations of these tensions (influenced by their strategic orientation and organizational level) shape how they deal with the tensions. Another key finding emerging from our research was that senior management is facing strategic tensions of innovation and efficiency, while lower organizational levels deal with the operational tensions of these dual demands. This finding corroborates Bledow et al.'s (2009) work, who argue that both the pursuit of radical, as well as incremental innovation, give rise to tensions and challenges to the established organizational logic at different levels of the organization. Farjoun (2010) also argues against the neat separation of duality tensions of stability and change, posing that individuals engaged in routine tasks exercise some degree of experimentation, while those engaged in creative tasks also employ routines. In a similar note, Rosing et al. (2011) highlight the presence of exploration within exploitation and vice versa. This multiplicity of tensions across levels reveals a complex picture of co-existing ambidexterity tensions within a single organizational context, challenging traditional views of ambidexterity that focus on a single level of analysis of such tensions (Raisch et al., 2009).

Approaches to resolving the tensions of ambidexterity vary from structural separation (Tushman and O'Reilly, 1996) to integration within the same unit (contextual approach) (Birkinshaw and Gibson, 2004). Tactics of differentiation (Jansen et al., 2009), integration (Smith and Tushman, 2005) or alignment and adaptability (Gibson and Birkinshaw, 2004), have been proposed, but what is currently unexplored is whether these mechanisms can co-exist within a single organizational context (Chandrasekaran et al., 2012). At the individual level, insights into the nature of managerial capability, as a means to understand and achieve ambidexterity, have been scarcely researched, despite the importance of this theme (Turner et al., 2013). Birkinshaw and Gibson (2004) suggest that actors can take their own decisions on a daily basis with respect to either pursuing exploration or exploitation, to accomplish organizational ambidexterity. Our findings complement this view, by suggesting that such pursuit involves tensions that actors interpret in ways that are influenced by their organizational level and strategic orientation. Also, that actors do not habitually change their daily behavior to deal with these pressures; rather, they cope by interpreting them within their already established paradigm.

A path dependent process of managing tensions of ambidexterity. Rather than a unitary ideal of balance of the two poles of innovation and efficiency, our data shows a path-dependent set of interpretations and actions with respect to the pursuit of ambidexterity. As shown in Tables 2, 3 and 4, a specific strategic orientation is associated with a specific view of the dimensions of ambidexterity (nature of innovation and its relationship with efficiency), which, in turn, entail different approaches to managing tensions. These findings elaborate previous work on the connection between actors' sense making and actors' responses to tensions (Jay, 2013; Smith and Lewis, 2011) by developing particular paths from varied interpretations to approaches to managing tensions. This path dependent interpretation corroborates Ford and Ford (1994) suggestion that the framing of paradox defines the response to paradox.

By focusing on actors' first-order interpretations, as recommended by Cantarello et al. (2012), we found that key dimensions of ambidexterity do not have a unitary meaning but that how they are perceived is shaped by the actors' context (Paroutis and Heracleous, 2013). In that context, innovation was interpreted as process innovation in pursuit of higher efficiency at the middle management and operations levels, while at the senior management level innovation was related to business model, service, or strategic innovation. These conceptualizations were related to three main strategic orientations within the organization. Firstly, defending existing business (at the operations and middle management level); secondly, growing existing business; and thirdly, exploring new opportunities for growth (at the senior management level). In a similar note, Andriopoulos and Lewis (2009) have referred to the nested tensions of innovation (strategic intent, customer orientation, personal drivers). The role of strategic orientation is explored by Auh and Menguc (2005) who focused on the distinction between defenders and prospectors and the impact of pursuing exploration or exploitation strategies on firm performance. They found that exploration was more positively related to firm performance for prospectors than exploitation and vice versa in the case of defenders. Our findings extend this argument by proposing that different strategic orientations can co-exist within a single organization, leading subsequently to differential managerial approaches to innovation-efficiency tensions.

The theory of paradox suggests that in order to reduce anxiety and frustration, actors suppress one side of the polarity by essentially choosing one side over the other. As Lewis (2000) explained, "most actors accentuate contradictions by interpreting data (e.g., their own and others' feelings, organizational practices, environmental cues) through simple, bipolar concepts, constructing logical, internally consistent sets of abstractions that separate opposites" (p. 762). In that context, research on paradox theory has identified techniques like splitting, projection, repression, reaction formation and ambivalence (Lewis, 2000) and ambidexterity literature has proposed structural separation of exploration and exploitation units to resolve tensions. Our findings from Telco, however suggest that instead of suppressing the relatedness of contradictions employees engage in an active form of coping "in which managers recognize and accept the simultaneous existence of contradictory forces" (Smith and Tushman, 2005:526); noted as an "acceptance" approach by Lewis (2000). Following the pursuit of ambidexterity at the organizational level, actors can conceptualize more complicated interrelationships (Dameron and Torset, 2014; Smith, 2014) between innovation and efficiency (these perceived in our case as complementary, conflicting or interrelated).

Highlighting the interpretations of organizational actors, this research shifts the focus of ambidexterity from an organizational structure or temporal issue to something people do as they are confronted with conflicting pressures. The identified process of reframing brings forward the role of organizational actors in managing tensions of ambidexterity, based on their organizational level and strategic orientation. Whereas this process of reframing is used as a coping mechanism for re-conceptualizing tensions, it does not assume that tensions are resolved; instead latent tensions of innovation and efficiency emerge, confirming the perpetual nature of organizational contradictions (Luscher et al., 2006). In this sense, tensions exist in an ongoing manner in a state of dynamic equilibrium, confirming the usefulness of paradox as a way to conceptualize how actors interpret and deal with tensions of ambidexterity (Smith & Lewis, 2011).

Integration and separation strategies. The issue of the relationship between exploration and exploitation (whether exploration or exploitation are considered two ends of the same continuum and in that sense inherently contradictory, or as theoretically independent constructs which are not necessarily conflicting; Gupta et al, 2006; Lubatkin et al. 2006) remains a key issue in the study of ambidexterity. Our findings suggest that approaches to how tensions are managed are based on how tensions are perceived.

At the operational and middle management levels, actors pursue *integration* as a mode of balancing. As a result, within their everyday practice, employees pursue ideas that lead to operational efficiency by minimizing cost and enhancing efficiencies. This results to a continuous adaptability of processes that can respond to change and customer demands, a process that has been referred to as dynamic efficiency (Adler, 2009). At the senior management levels of Telco, where the existing organizational scope and resource commitments are seen as constraints to business model, service or strategic innovation, the balancing mode becomes *separation*; either temporally or in terms of setting up parallel but interrelated structures to pursue new avenues for growth. Research findings, thus, support the idea that the pursuit of ambidexterity is based on both dialectic and dichotomous approaches to managing tensions (Bledow, 2009) at different levels of the organization. These approaches build on both integration and separation strategies in the context of maintaining a dynamic equilibrium between tensions, as the paradox perspective suggests (Chandrasekaran et al., 2012; Andriopoulos and Lewis, 2009; Smith, 2014). Our findings complement these studies by suggesting that this mix of integration and separation strategies is dependent upon actors' organizational level and strategic orientation that in turn define the context within which tensions are interpreted and managed. Cantarello et al. (2012), recognize the existence of both integration and separation strategies in the pursuit of ambidexterity, however, they suggest a sequential model of integration and separation throughout the organization, similar to Smith and Tushman's

(2005) mix of integration and separation as sequential cognitive activities of the senior management team.

Overall our findings empirically demonstrate a dynamic alignment of tensions appearing at different organizational levels (Smith and Lewis, 2011). These findings are closely related to Simsek's definition of ambidexterity as a "dynamic balance that stems from purposefully steering and prioritizing each dimension to its inherent optimum as conditions demand" (2009:618). Influenced by the concept of dynamic capabilities, dynamic ambidexterity argues that organizations are prone to change their ambidextrous configuration according to opportunities and threats that arise from their internal and external environment without achieving a lasting balance between exploration and exploitation (Simsek, 2009; Smith, 2014). Similarly, literature on dynamic capabilities argues for the ability of organizations to create and recombine their resources in novel ways in order to manage tensions between efficiency and flexibility, or stability and change (Eisenhardt et al., 2010; Martin, 2011; Schreyögg and Kliesch-Eberl, 2007; Teece et al., 1997).

Structural and contextual ambidexterity. By bringing together both levels of analysis (the individual and the organizational context within which actors operate), this research contributes further to the literature on contextual ambidexterity, which has scarcely been empirically researched (Güttel and Konlechner, 2009, Gibson and Birkinshaw, 2004). Contextual ambidexterity suggests that individuals can decide by themselves whether to focus on exploratory or exploitative activities at different points in time (Birkinshaw and Gibson, 2004). What we find is a more complex and pluralist picture, suggesting that the way individuals respond depends on their position in the organization and on how they interpret ambidexterity tensions. Our research thus follows calls that highlight the key role of individuals across levels for the pursuit of ambidexterity (Mom et al., 2009, McCarthy and Gordon, 2011, Lin and McDonough III, 2011, Cantarello et al., 2012). Our findings suggest that whereas Telco primarily followed an approach of contextual ambidexterity (by not separating exploration and exploitation in different organizational units), separation strategies were still being pursued in instances of business model or strategic innovation. In this sense our findings agree with propositions that contextual and structural ambidexterity are not necessarily mutually exclusive, but can co-exist within a single setting, being employed simultaneously or sequentially. As a result, the pursuit of ambidexterity cannot be treated monologically, as if it only has one meaning, or one way of managing tensions. Instead, our research supports scholars who argue for a multi-domain analysis of ambidexterity in order to gain a clearer picture of how ambidexterity is achieved and sustained in practice (Turner and Lee-Kelley, 2012, Gupta et al., 2006, Raisch and Birkinshaw, 2008)

Practical Implications. The pursuit of ambidexterity has become an imperative for most organizations, and successful ambidextrous organizations have developed ways of dealing with the opposing tensions (Heracleous, 2013; Heracleous & Wirtz, 2010). The more we know about how actors interpret and deal with ambidexterity pressures in practice, the more useful ideas and tactics we can disseminate to managers who have to deal with these issues. Our findings show that different levels of the organization may interpret the dimensions of ambidexterity in a way that agrees with their organizational context and everyday work pressures (for example the different interpretations of innovation in Telco); and that these interpretations will also shape whether they view ambidexterity poles as complementary, conflicting or interrelated. Senior managers therefore can be more proactive and anticipatory in their thinking about how to pursue organizational ambidexterity. They can consider questions such as: How will the poles of ambidexterity be interpreted, given a specific strategic orientation? What will the differences be between senior versus middle and operational levels in these interpretations? What are the likely modes of balancing pursued, given the differences in interpretations? Ambidexterity is a complex organizational capability, not easily achieved. Being able to anticipate both the path dependence of interpretations and actions, as shown in our data, as well as the likely ways in which actors will view and deal with ambidexterity pressures would be valuable for senior managers aiming to make their organizations more ambidextrous.

INSERT TABLE 5 ABOUT HERE

Limitations and recommendations for further research

With respect to limitations, our research focused on one in-depth case study, at a particular juncture in its history. Being a single case study, we aim for generalization to theory, rather than statistical generalization (Yin, 2009). Related to our study's timeframe, even though we examined a period of 22 months, it is possible that a longer, historical timeframe could have revealed additional relevant information, and justified a shift in our interpretations of our data. For example, it is possible that a decades-long historical focus could have supported an explanation consistent with temporal balancing; even though such an explanation would be complementary rather than compete with our findings.

The issue of simultaneity is a complex and unresolved topic in ambidexterity literature with some scholars adopting the view that ambidexterity presupposes simultaneous pursuit of exploration and exploitation, and others who argue that organizations would benefit more from a shift between poles over time (Laplume and Dass, 2009). Research combining a historical perspective, with in-depth examination of particular periods, could shed light on the circumstances under which a simultaneous or sequential approach to organizational ambidexterity occurs, or whether some organizational levels follow a simultaneous and others a sequential approach.

Our research focus has been on how individuals within specific organizational groups interpreted and managed tensions, rather than on the formal organizational structures, policies and processes put in place in pursuit of ambidexterity (Wang and Rafiq, 2014). Further research of these dimensions, along the lines of studies of Toyota (Adler et al., 1999) and Apple Inc. (Heracleous, 2013) could complement current understandings, and provide evidence on how ambidexterity is built within organizations as a capability. Our findings contribute to a growing stream of literature which argues for a more holistic and fine grained approach to the study of ambidexterity. However, additional multi-case and cross-sectional evidence could assist in substantiating the insights of our research. Longitudinal studies could also explore whether these tension interpretations are subject to change over time and whether other contextual factors influence the interpretation and management of ambidexterity tensions, such as organizational size or environmental velocity.

Conclusion

Whereas literature on ambidexterity has proposed solutions that aim to accommodate and ultimately resolve tensions, research findings suggest that single level or single mode approaches do not sufficiently address the complexity and dynamism of ambidexterity processes. Shifting the level of focus from the organizational level and the different structural or contextual approaches to managing tensions, we found that the pursuit of ambidexterity is based on a continuous and dynamic effort of recognizing and managing different tensions at different levels. Our findings offer a more fine grained and multilayered approach to ambidexterity, which pays attention to how organizational actors perceive and manage these tensions.

Table 1. The Restructuring of Telco

Strategic intent	Interpretation of intent	Illustrative quotes
Increase efficiencies	*Increased commonalities and simplified organizational processes*	One is to get greater efficiency through being able to share resources on a regional basis, improve the common ways of working across the regions, across the countries, reduce the number of interfaces into the global organizations to try and simplify a lot, one common core, one common resourcing or one common way of working globally.
	More efficient use of resources	The philosophy around it was to try and coordinate better across the countries... Essentially they were country units and the feeling was that there was a lot of duplicated resource and they could combine those countries together into a region and therefore reduce the duplication and effectively free up resource to be used in the different areas.
Explore new opportunities for growth	*Closer to the customer*	So then there's the realization that we need to get close to the market, we need to make faster decisions and be closer to our customers' need and feed those things back in so we said okay, now we're going to go out to like 10 strong regions.
	New go to market approaches	We're moving from a lot of the market units that are kind of the sales outlets to regions that have little bit more critical mass to be able to do the focus on innovation based on insights and the markets around them, finding partners, working closer with the customers and so on. So that is kind of one part of our innovation strategy if you like the regionalization, creating larger more stronger units out there that could drive innovation forward.
		Look at market trends, look at their customers, understand what capabilities we have and then to work out propositions which are compelling and differentiate Telco in the market.

Table 2. Efficiency and Innovation at the Operations/Middle Management Level: Defending Existing Business

Themes	**Org Level: Operations/Middle Management**	**Illustrative Quotes**
Strategic orientation	Defend existing business	So efficiency is too narrow, but innovation delivers an improved business outcome. And a business outcome is measured by a whole range of factors. And if we just had efficiency and the customer got fed up and left us, that's not a very good option. Is it? So it's kind of getting that real balance in our business
Innovation seen as	Doing things better to exploit existing competencies so as to solidify business with existing customers and in current markets	Innovation will encapsulate everything that we do. So it's actually all the changes and the things that we're doing and the improvements we're making. Innovation is more about how can we do things better, smarter, quicker, deliver better quality, less people, lower cost, improved customer service. Our innovation is about being efficient; it is about increasing revenue, it is about being operationally excellent.
Perceived relationship between innovation and efficiency	Complementary	Innovation would be more or less the tool. It's like how can you become efficient? They complement each other. Some of the best innovations I have seen is how people have chopped time off so they have said this takes four days, I can get it done in two days and yes, so they are totally complementing each other. I mean you can certainly have innovations that increase efficiency… this tool that I'm working on hopefully will make it more efficient because we can do a lot of freely, so I think innovation can push efficiency.
Tension management	Integration	That's the whole point, it's every day. So innovate every day would be kind of a key thing to our success. The value-add we bring to our customers, one of the value-adds we bring to our customers can be described as the innovation that we bring every day.

Table 3. Efficiency and Innovation at the Senior Management level: Growing Existing Business

Themes	Org Level: Senior Management	Illustrative Quotes
Strategic orientation	Growing existing business	In today's climate the one thing you've got to do is make the customers absolutely delighted; otherwise they will go somewhere else. So efficiency is too narrow, but innovation delivers an improved business outcome. And a business outcome is measured by a whole range of factors. And if we just had efficiency and the customer got fed up and left us, that's not a very good option. Is it? So it's kind of getting that real balance in our business.
Innovation seen as	Reconfiguring existing or developing new competencies, to expand business with existing customers in current markets	Innovation, is really thinking outside the box, not a day-to-day problem but more about looking at the customer's infrastructure from a distance and trying to come up with ways to make the infrastructure run faster and quicker, better, cheaper, more efficiently by investing in tools or equipment or whatever…
Perceived relationship between innovation and efficiency	Conflicting	If you're too focused on the present then the first thing that will get dropped will be any form of innovation, you know, because you're on the treadmill and the process says what should cost this week and what should cost next week and the week after, don't give me any of that innovation shit just get on with doing what you're supposed to. The interesting point is how do you balance the risk against innovation and how do you balance the efficiency against innovation because innovation implies you have a failure rate. You have things that do not work and that costs money and time.
Tension management	Temporal Balance, Separation	You can never stop thinking for the new, and you can never, only think for the new and not for the efficiency of things, but of course sometimes there's a different pull there, I mean if you've got a crisis where you nearly got into the wall I think it's very hard to come out with new idea that will get you out of the problem. I think too often it's the kind of sequential thing. It all happens in cycles…there were times where there was some budget available for long term investment, for innovation and then suddenly when the crisis hit, somebody said we cut everything. So it's either running or standing still. In cycles.

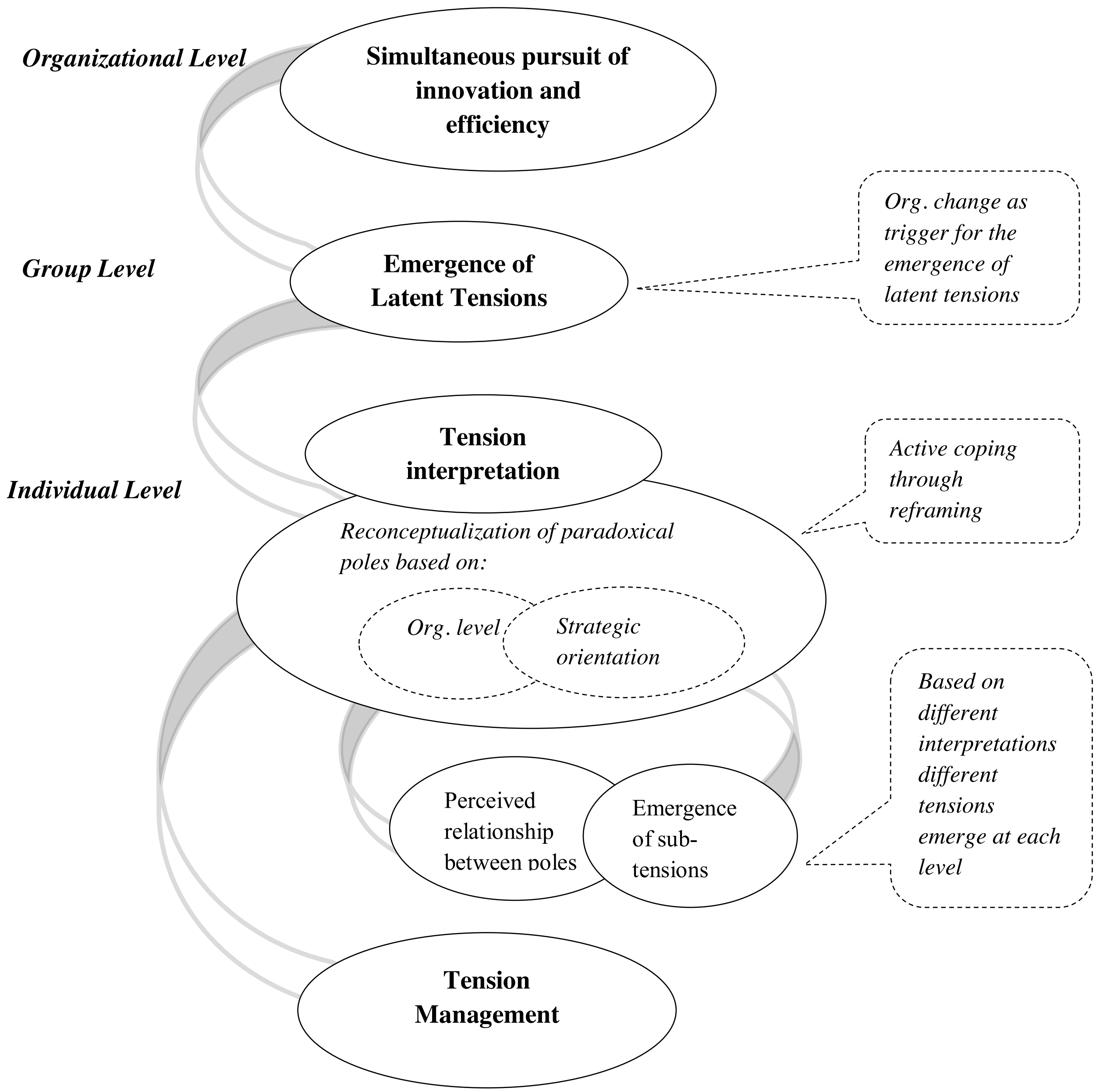
Table 4. Efficiency and Innovation at the Senior Management Level: Exploring New Avenues for Growth

Themes	Org Level: Senior Management	Illustrative Quotes
Strategic orientation	Explore new opportunities for growth	So to me that's closer to my mission of innovation to explore the potential of Telco's current assets with a new customer group… Currently we explore seven sub-segments outside our core business.
Innovation seen as	Reconfiguring existing competencies or exploring new ones to gain new customers and penetrate new markets	We are working with innovation set forth outside the scope and the capabilities of the existing business units in the organization. Innovation is a central theme on a number of different levels, innovation in applicability of ICT in the given areas, innovation in the types of business models that are not traditional from both the vendor point of view, so the client's point of view, and also from the our point of view as well. It's not supposed to be reinventing the wheel, but it's duplicating it with a different notch to it that is applicable for a different market. It is applying that knowledge base and that traditional product base to a completely new area of business.
Perceived relationship between innovation and efficiency	Interrelated	A good businessman whether it's running a corner shop or in Telco is always looking for new ideas, but making sure that they can run the existing business on good solid numbers and again, you know, gain any little benefit to be competitive so you know both are essential, but they're two different things. The efficiency element could come around time usage, how much time should be spent on particular projects or how much time should be spent on, you know, background research or engagement with particular customers or attending particular conferences, that's where I have seen maybe efficiency may come into play. I am not sure if I draw a direct correlation between efficiency and innovation
Tension management	Structural Separation, Parallel Structures	We identify the opportunity and help formulate that into a structure and then pull the necessary people from the different parts of the organization that could contribute to the end result, which is essentially a solution. You definitely need a greenhouse phase otherwise you know it's "weed", I mean something that turns up in a place where it shouldn't be. Even if it's a be beautiful flower, you know, in field of barley if it doesn't belong there you take it out, it doesn't belong there, … So if you want something else to happen you must protect it from that normal business, if it's radical and if it's new and if it's different.

Table 5: Research Findings and Implications for Theory

Research question: **How do individuals at different organizational levels perceive and manage tensions arising for the pursuit of ambidexterity?**		
Findings	**Dominant understanding**	**Implications for theory**
Emergence of Latent Tensions • Org. change as trigger for the emergence of latent tensions in different groups	• Tensions usually explored at firm level *or* business unit level	• **Ambidexterity as a system of tensions** a. Organizational ambidexterity entails the simultaneous presence of multiple tensions across levels b. Conceptualizations of exploration and exploitation as inherently contradictory or interrelated constructs depends on the manifestation of the tensions that arise at each level
Tension interpretation • Different conceptualizations of the tensions at different levels based on org. level and strategic orientation	• Uniform understanding of tensions	
Tension management • Mix of integration/ separation strategies within organizations in order to manage tensions / different modes of balance therefore co-exist within a single organization • The management of the tensions is based on the perceived nature of the relationship between poles of the tension a. Conflicting-separation b. Complementary-integration c. Interrelated- separation	• Integration *or* separation strategies are mainly proposed • Paradoxical cognition is mainly attributed to the management of the tensions	• **Path dependent process of managing tensions** (actors' pragmatic approach within a supportive organizational context) a. No single mode of balancing is adequate for the entire organization; one universal mode of balancing cannot be applied b. Appropriate tactics to resolve tensions have to take account of how actors view these tensions, since the management approach they pursue depends on their interpretations of tensions

Figure 1. Path Dependent Process of Managing Tensions of Ambidexterity



APPENDIX

Table A1: Data collection in Telco

Interviews (total 30)	Phase A. (Nov. 2010-July 2011)	Phase B. (Sep. 2011-July 2012)
Middle Management/Operations		
1. Service Improvement and Innovation Specialist	√	√
2. Head of Design and Integration	√	√
3. Device Application Engineer	√	
4. Innovation Program Manager	√	
5. Design Manager	√	
6. Head of Operational Excellence and Innovation	√	√
7. Internal Communications Manager	√	
8. Solutions Integration Engineer	√	√
9. Account Director	√	
10. Managed Services Chief Operating Officer	√	
Senior Management		
1. Services Sales Director	√	
2. Regional Manager Strategy and Regulatory Affairs, Head of Innovation Forum, Region Western and Central Europe	√	√
3. Head of Marketing and Communications, Region Western and Central Europe	√	√
4. Director Strategy and Business Development UK-Ireland	√	√
5. Customer Unit Head UK-Ireland	√	√
6. Vice President Managed Services and Outsourcing, Region Western and Central Europe	√	√
7. Global Director New Business Development and Innovation	√	
8. Chief Technology Officer, Region Western and Central Europe	√	√
9. Vice President Head of Communications Services, Region Western and Central Europe	√	
10. Director Strategy and Innovation	√	
Non Participant Observation		
Global Innovation Forum (1 day teleconference)		
Office observation (Local offices, Global Headquarters)	(6 weeks)	
Archival Material		
Company Reports, marketing material, Published articles		

Table A2: Analytical coding table: Operations/ middle management

Second-order Themes	**First-order Codes**	Illustrative Quotes
Tensions of Content	*Confusion regarding innovation definition*	So, it's meant to be part of everything we do every day. It's difficult because of the...the whole…what is innovation, what does that mean to each person? It means something different. Some of the engineers here feel that innovation is a patent. It's a brand new idea, it's something physical, it's a thing, it's a machine, it's…they've got a very concrete view of what they think innovation is and then you've got the other people who actually (say) well, I innovate every day because I change things because I actually get bored or I think that's faster or actually that would look better. So I change things all the time so that's my idea of innovation. Well, the only thing I would add is that I think it's important for… exactly… it sounds wrong but the definition of innovation is critical. And I think that one really strong outcome of things would be to… be to be able to identify what is innovative, not how to be innovative but what is innovation. And I don't think that's very well understood.
	Innovation linked to product/ radical innovation	Initially there was a view that innovation is…Apple innovates by creating the iPad so innovation is something big. The major problem with the company like this is when you say innovation you think it's, you know, creating new products, new base stations. I think a lot of people would feel an innovation is a grand scheme, something that has to be a massive change from the norm, something that's just nothing out there, it's completely new One of the problems that we have here is if you look at our business, if you say to people I need to innovate some of the ideas, they kind of go "I need to think of something radical, I need something radically different".... People think that they have to do something extra special to be innovative. That's what I think people think innovation is. You know, some of those things are amazing that we do, the big changes 3G, 4G, LTE, TV and those are great ideas, technology leadership is innovation in itself, but I'd like to see it on a much broader spectrum even the boring stuff.
Tensions of process	*Billability*	You generally find in the managed service space that billability is the king. You work for Accenture, you work for any other business that provides the service, and billability is king so that for 100% of the team needs to be billed to a customer. If it's not, then they start to look at efficiency. So if you look at our business here that is predominately

		100% billable, what time do they have to innovate? So therefore you need to build then some time that allows them to innovate, otherwise all they will focus on is the day job. Managed service deals, they have to time-report every 15 minutes as to what customer they are working for. So it's quite descriptive. They have set lunch breaks. They have set times when they can take their breaks… And they do like a seven to seven shift, for example. So innovation is meant to be part and parcel of what you do, but because they time report, they find it very stressful. Everything is around time and budget right here, so you have to prove basically that you're working and not wasting company time. So when you come up with an innovation idea, there is budget allocated to you for investigating it. So if you work on it or if you've got physical time, if you work on it you can actually book to a separate budget that's measurable, you know, so and so people and so and so department book so much to innovation that's measurable and you are booking to you something so you are not wasting time. There's no time, so we don't set aside any time for it, we just hope our people will bother to go and put their ideas into this system… And to have engagement you have to have a culture of innovation and we don't have that. We do not have that at all because we work for the customer, priority is the customer, we are billable… you have to time report. In the Telco model basically we have very strict targets on utilization and billability and these are costs that would have to be explicitly borne, which we may choose to do, but it's certainly not something that I could just decide to say okay my departments 10% on you go, no chance. We do not have the latitude to do that. These guys are, you know, if they are not billing the customer we are not getting revenue for it, we are not covering their cost. So it's more the difficult environment in which to do that.
	Lack of incentive	No, no incentive. It's actually their lives are easier if they avoid innovation and push back because it means somebody else is got to do it, not them. It's up to the employees. So at the moment there isn't an allocated budget or slot for employees. It's up to the employees to be proactive. I think that it has to be embraced at all levels and that's where having too much be tied down to metrics is tough because if all I care about is ticking the boxes of hours reported and so forth, I'm not going to risk it, I'm going to want to go simple and straight forward. If my performance review with my boss and his performance review with his boss is what you're doing that really is new and exciting and different, then there is an option for that. There are too many people who are incentivized in the wrong way and they were incentivized against innovation. I

		think that a part of it is just being a big company, I think inherently makes you more risk averse because you got a lot more to lose and also again as I said you have people that have doing it one way for 40 years and not going to want to change
Innovation Definition	*Innovation as a process of continuous improvement*	Innovation will encapsulate everything that we do. So it's actually all the changes and the things that we're doing and the improvements we're making. Innovation is more about how can we do things better, smarter, quicker, deliver better quality, less people, lower cost, improved customer service. Our innovation is about being efficient, it is about increasing revenue, it is about being operationally excellent.
Strategic Orientation	*Defend existing business*	In terms of differentiating Telco from other competitors and in keeping us involved in the right levels within the customers we have to demonstrate that we have some innovation about how operations can work and how networks can be structured, etc. If you fall back from that position and you just do the products and you are selling boxes then you are treated as a product company and you are not part of, you do not have a seat at the table and strategic discussions with the customer and that's really not what Telco wants to be. Telco wants to be a strategic partner therefore has to provide value to the customer. So innovation is central to this. We have a very good market position; we have a lot of market share. But if we want to maintain that market share, we have to do thing differently and more cheaply, that's really the focus for the – for the delivery and management team at the moment. Typically, our business case will depend on doing some kind of transformation, some kind of change. Customers are typically on very old or very new systems and they are all on different things and they've done different customizations with different requirements. And we need to find our way through that into some sort of commonality that allows us to be efficient. Is the business going to stop if we don't innovate? Yes, absolutely, completely stop. We will lose our market share. So one of the things I noticed when I joined the company or joined this department was there were some relationship difficulties with our customers, internal customers and internal suppliers, and again we want to show that we have been addressing those. One way to address them is to make sure the people see that we are interested in their feedback and innovating… what we are doing to help them, you know, and I think that's a good message.

Integration	*Process innovation embedded into everyday practice*	For instance, if you do your day job and you notice something wrong that no one else has noticed before and you try to change it that's still an innovation and we've had innovations where someone's looked at, you know, code, other people and save the customer and the company 100,000 pounds which is big money. So the example I gave for the pre-sales you know first we innovate to fix a problem knowing that actually then you are not the most efficient; then once you got the problem fixed then we are doing the efficiency activity to drive out the cost, maybe innovate again… you want a background level of innovation happening all the time We've got to change something fundamental and that change has to come from within. So it's actually all the changes and the things that we're doing and the improvements we're making and the value-add we bring to our customer… And there are big leaps and small leaps but it's all new ideas incorporated and integrated and getting people working together to flush out the better ways of doing things to optimize things. The unit I work in I mean we're quite innovative in how we get something delivered to the customer. I mean I know it sounds very boring, but our outlook is when a customer says he wants something within reason, he should be given that and we are very innovative and agile when it comes to delivering that. Even though there might be a set of rules that say how you proceed, we look at it and if we don't like it, we'll write a new set of rules, create the standard, and follow this very fast.
Complementary relationship between efficiency and innovation	*Innovation as a means to enhance efficiency*	Innovation would be more or less the tool. Its like how can you become efficient? (Service Improvement & Innovation Specialist) So, yes, they complement each other. Some of the best innovations I have seen are how people have chopped time off so they have said this takes four days, I can get it done in two days and yes, so they are totally complementing each other. It's not, I think people understand that because culture here is if it takes longer, you're not doing it right. I mean you can certainly have innovations that increase efficiency… I mean obviously we have seen things where efficiency has been improved by innovation. This tool that I'm working on hopefully will make it more efficient because we can do a lot of freely, so I think innovation can push efficiency For services business, (innovation) that's how you get efficiency.

Table A3: Analytical coding table: Senior management-A

Second-order Themes	First-order Codes	Illustrative Quotes
Tension of Structure-Freedom	*Internal processes that allow both innovation and efficiency*	I think the whole company in this country certainly is built around processes that satisfy a customer's requirement and it's hard to build innovation into a process because by having a process you've almost stifled the innovation on day one. You wanted to be creative and thoughtful as opposed to this is "step one, everyone think for 10 minutes, step two everybody write it down, step three" You know what I mean? So we first try and put a structure around it, and I think again it's about getting that balance between you know structure and also bit of freedom as well because, you know, we're an engineering company at heart with lots of processes, and I kind of get a bit nervous about too much structure and innovation, you know, I don't think you know structure and innovation soon becomes into just talking shops. So I think it's about creating that kind of culture, that environment where people come with ideas and say let's go and try it and that'd be more entrepreneurial a bit more that type of idea. So yeah a mix of both, a mix of both. Coordinated and effective, not hampered and micromanaged … how do you empower it in the right way. That's the challenge
Tension of proactiveness - reactiveness	*Respond to client's need and deliver new ideas*	It's got to be taking ideas to the customers to say this is what we can do for you; this is how we can do it. Well, I think that's what we should be doing more of, but I don't think we are not doing enough of that at the moment. At the moment, we're very reactive to problems so you know a light goes red, we send the bloke out and he fixes something, another one goes red, they go somewhere else and fix it. Whereas what we're not very good at is saying well why do these lights keep going red, how do we stop them going red? I think for us it's around customer's want to be brought new ideas and what we should do more of is just proactively, if we are running an infrastructure for a customer we are the people that know it the best because we're running it so we should be taking them an idea every month to say look we're running this infrastructure, we've noticed if we do this, this and this, we can run it better. I think that's innovation in our part of the business. It's just taking good ideas to the customer.
Tension of Predictability - Uncertainty	*High perceived risk of innovation*	The interesting point is how do you balance the risk against innovation and how do you balance the efficiency against innovation because innovation implies you have a failure rate. You have things that do not work and that costs money and time so how do you buy yourself space to innovate within those constraints.

		The costs are monitored to the nearest pound, penny, and innovation you can't easily put a return on it. So our structure doesn't promote that innovative growth because it's a lot of investment for no guaranteed return. If my boss came to me and said, would you like to hire two people and gamble your target on innovation, I'd say yeah absolutely no problem; hire them now because I believe in it. Will he ever say that to me? I doubt it, I doubt it very much. I would have to go to him with a pretty robust case and guarantee him some sort of return on his investment because he has a number of, we call it golden tickets. You can hire someone into managed services to sell managed services hopefully successfully or you can hire someone into mobile broadband to sell base stations or you can use it to hire someone called innovation and business development that may or may not deliver something over a long period of time and if you have only got one golden ticket you want to spend it where you are going to get the best return. The interesting point is how do you balance the risk against innovation and how do you balance the efficiency against innovation because innovation implies you have a failure rate. You have things that do not work and that costs money and time
Innovation Definition	*Innovation as reconfiguring existing competencies or exploring new competencies*	Innovation, is really thinking outside the box, not a day-to-day problem but more about looking at the customer's infrastructure from a distance and trying to come up with ways to make the infrastructure run faster and quicker, better, cheaper, more efficiently by investing in tools or equipment or whatever Knowing what's happening in the market understanding what's actually going on, understanding what people's problems are, and the problems we're trying to fix. Internally navel-gazing innovation doesn't work. That's innovation in our part of the business because we don't make a product. We don't have anything that you can touch or feel, it is all fluff, and it's all fresh air. It's got to be taking ideas to the customers to say this is what we can do for you; this is how we can do it. Well, I think innovation is creating something new… for me and then efficiency is making what you have work better. I think the danger is I think if …efficiency won't really give you growth, it will make things more… work better to get greater profitability something like that, but innovation drives growth for me
Strategic orientation	*Expand business with existing customers in current markets*	What's coming down the road, how does Telco survive in the next era, how do we innovate on the business model side to survive? Customers have a number of challenges and what does that mean for the operators? So they look at new models like network sharing, which we've seen in the UK where 3 and T-Mobile built a joint network. You need to be very innovative in the way that you develop your solutions to satisfy the requirements with the customers. If you're not innovative; and you're not efficient in developing that innovation or efficient managing it, then

		they're not going to succeed. All you're going to effectively do is commoditize your own product base and your frond base is not going to expand. I think for us it's around customer's want to be brought new ideas and what we should do more of is just proactively, if we are running an infrastructure for a customer we are the people that know it the best because we're running it so we should be taking them an idea every month to say look we're running this infrastructure, we've noticed if we do this, this and this, we can run it better.
Contradictory relationship between efficiency and innovation	*Competing resources, processes and time-frames*	If you're too focused on the present then the first thing that will get dropped will be any form of innovation, you know, because you're on the treadmill and the process says what should cost this week and what should cost next week and the week after, don't give me any of that innovation shit just get on with doing what you're supposed to… It is a paradox. I view it every day in my work. It's how I call it the short-term goal and the long-term goal; there is always a conflict there. When profitability is under pressure you focus on efficiency and not so much innovation and that's what we are struggling with now I think sometimes, if you're too focused on efficiency it's hard to think of something new. So I mean I think, if you're struggling on profitability and you want to make things more efficient and then it's hard to think of the next new idea
Temporal Balance	*Shifting between periods focused on efficiency & periods focused on innovation*	I think it's all about balance and sometimes you have to lean more to one way than the other. I think that depends on how I push, I mean you got to have that kind of efficiency and drive that… you need that in order to give you the chance to drive something sustainable. And at the same time, you know, you need to focus on innovation so you're probably doing different pockets in different time It all happens in cycles…there were times where there was some budget available for long-term investment, for innovation and then suddenly when the crisis hit, somebody said we cut everything. So it's either running or standing still. In cycles. You can never stop thinking for the new, and you can never, only think for the new and not for the efficiency of things, but of course sometimes there's a different pull there, I mean if you've got a crisis where you nearly got into the wall I think it's very hard to come out with new idea that will get you out of the problem. I think too often it's the kind of sequential thing. I've a core strategy every year, we have two off-sites every year with my management team to talk about strategy, which is a bit more, okay, let's look what happened in the market and then let's more creative sort of ideas, what could we do … so I guess that's the way that we try and manage it.

Table A4: Analytical coding table: Senior management –B

Second-order Themes	First-order Codes	Illustrative Quotes
Tension of new vs. existing competences	*Build on existing competencies and explore new ones*	Telecommunication companies from a sales perspective typically have a 12-month sale cycle, so you have a target over 12 months. If you're looking at new industries, the target is not 12 months; the target has to be 24 or even 36 months. That's just the way that the relationship develops. So it's a complete shift from the way the organization even thinks about sales and even thinks about development and it's about being creative in the way that you approach that internally. You have to be creative in the way that you actually understand what areas of the business are more applicable and what areas of the business aren't, and you have to also then understand is there something that we can go directly or is there something we have to go through a partnership with and is there credibility, do we have enough credibility to deliver that to that particular industry or is there another route that we should go to establish that kind of credibility. The major challenge is convincing the organization that there is a business there and qualify… they are uncomfortable with new things. They are uncomfortable. They don't understand how a new organization like the Red Cross could even use communication
Tension of separation vs. integration	*Structural separation of exploration team without resulting to isolation*	On group level, you kind of have the choice of establishing a completely separate organization. In the literature you find things that run Skunk Works and so on and you can place it elsewhere and completely separate and so on… 10-15 years ago so did also Telco. And then we had a completely separate business unit that we called you know business innovation. So all the new stuff was put in that, but then it turned out that that created a lot of difficulties in terms of kind of reintegrating back, you don't invent it here and all those things and then came the telecom crisis and then for many reasons that was completely canceled. So it was completely taken out of the Telco structure at that point so all of that was closed down. There has been a period where we haven't really had any central unit for driving new things, but that's now kind of re-emerging Telco is of course built with the business units today to serve operators and if we're to serve totally other customer groups should we build mini Telcos or new Telcos on the side for that, how can we continue to leverage the technology that is basically developed for operators, do we have to decouple this even more? The barriers to innovation, somehow comes back to the tension here is it's kind of to get the balance right, and realizing that you need to do this and that this is not becoming something separate or a place where you put the weird things that are not going anywhere anyhow, but things that are really important for the future.
Innovation Definition	*Innovation as reconfiguring existing*	We are working with innovation set forth outside the scope and the capabilities of the existing business units in the organization. Innovation is a central theme on a number of different levels, innovation in applicability of ICT in the given areas, innovation in the types of business models that are not traditional from both the vendor point of view, so the client's point of view, and also from our

	competencies or exploring new competencies for new customers/ markets	point of view as well. It is applying that knowledge base and that traditional product base to a completely new area of business.
Strategic orientation	*Explore new opportunities for growth outside the current organizational scope*	So to me that's closer to my mission of innovation to explore the potential of Telco's current assets with a new customer group… Currently we explore seven sub-segments outside our core business. Our challenge is to take in the program where I am the assets of Telco and turn them into value for these new customer groups. So we really collect the assets and develop the assets and together we operate with the customers. We're not specialists in these segments and they are not specialists in telecom, so we just come also maybe with that hypothesis that ICT could bring value to you. We can say this could probably be something for you, but there are also areas for these customers which are more explorative and where we break new ground together.
Interrelated relationship between efficiency and innovation	*Both activities were perceived as distinct but equally necessary*.	A good businessman whether it's running a corner shop or in Telco is always looking for new ideas, but making sure that they can run the existing business on good solid numbers and again, you know, gain any little benefit to be competitive so you know both are essential, but they're two different things The efficiency element could come around time usage, how much time should be spent on particular projects or how much time should be spent on, you know, background research or engagement with particular customers or attending particular conferences, that's where I have seen maybe efficiency may come into play. I am not sure if I draw a direct correlation between efficiency and innovation There is always innovation in efficiency and efficiency in innovation In the vertical markets you have to be more innovative. You also have to be efficient in the way that you manage this innovation and manage the organizational structures within the organization. It's about being efficient in the way that you do that; is about understanding exactly what your goals are you have to watch your market approach, how you approach those markets. And that's where innovation comes into play because that's not only innovation in the product and services side but it's also innovation in the approach side as well.
Parallel structures	*Pilot teams*	We identify the opportunity and help formulate that into a structure and then pull the necessary people from the different parts of the organization that could contribute to the end result, which is essentially a solution. You definitely need a greenhouse phase otherwise you know it's "weed", I mean something that turns up in a place where it shouldn't be. Even if it's a be beautiful flower, you know, in field of barley if it doesn't belong there you take it out, it doesn't

		belong there, … So if you want something else to happen you must protect it from that normal business, if it's radical and if it's new and if it's different. So then we win maybe 5 or 10 or 15 on that type of customer and then we can bring that up to higher management and see, see the hypotheses that we can leverage our skills in these sub segments, proven. The pilot mode lasts until we get our head around it and that we feel that we have insight. So we have monthly calls with all the regions where we go through and we say that's interesting, that could be part of the pilot, maybe I can support it may be I cannot support it, can you pursue it on your own, good, you're blessed, you know but you're within these seven vertical markets, you're okay, they are not in violation with the CEO's order of not doing anything else outside the pilot.

Figure A1. Data structure based on coding process (Operations/ Middle Management)

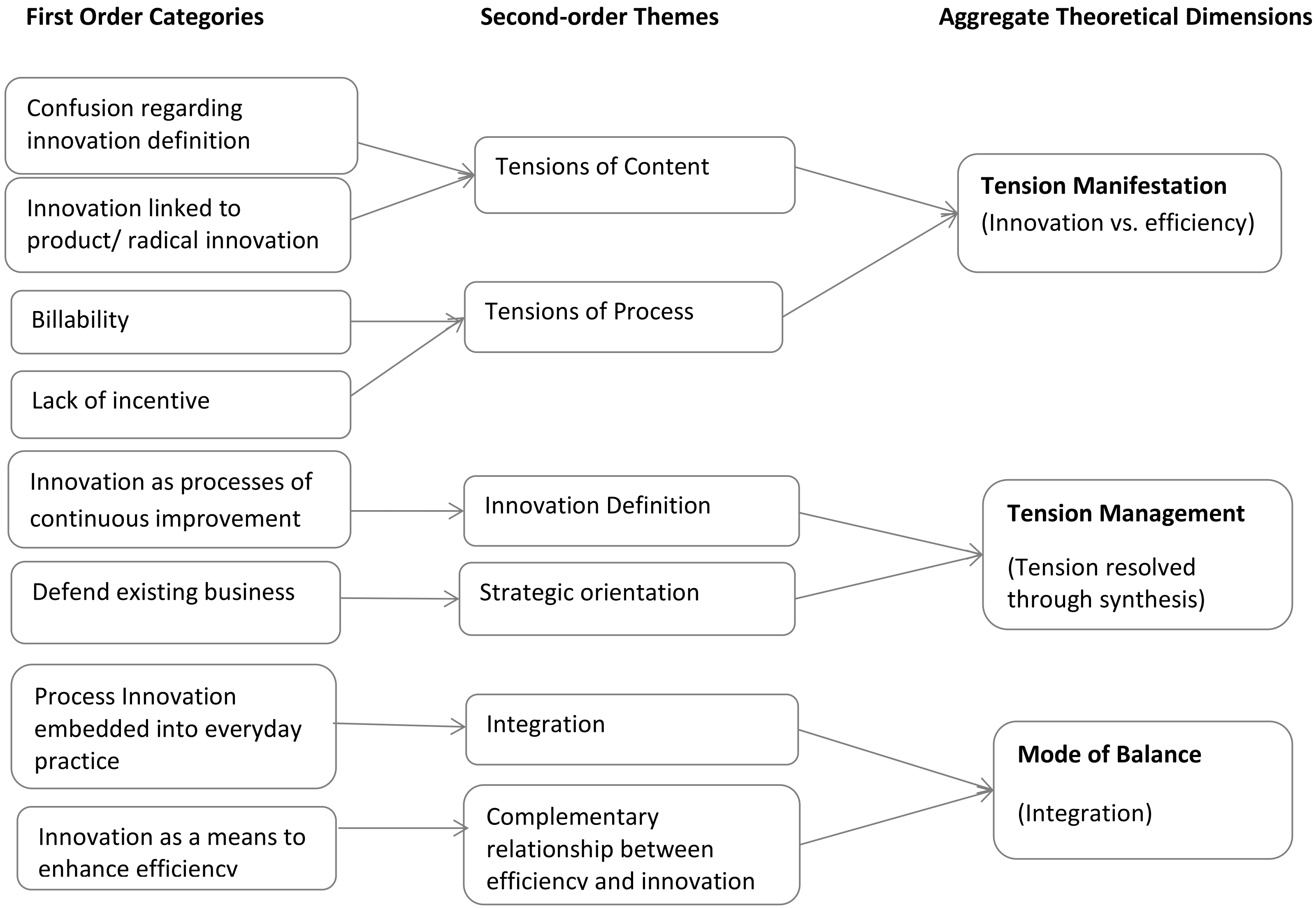


Figure A2. Data structure based on coding process (Senior Management- A)

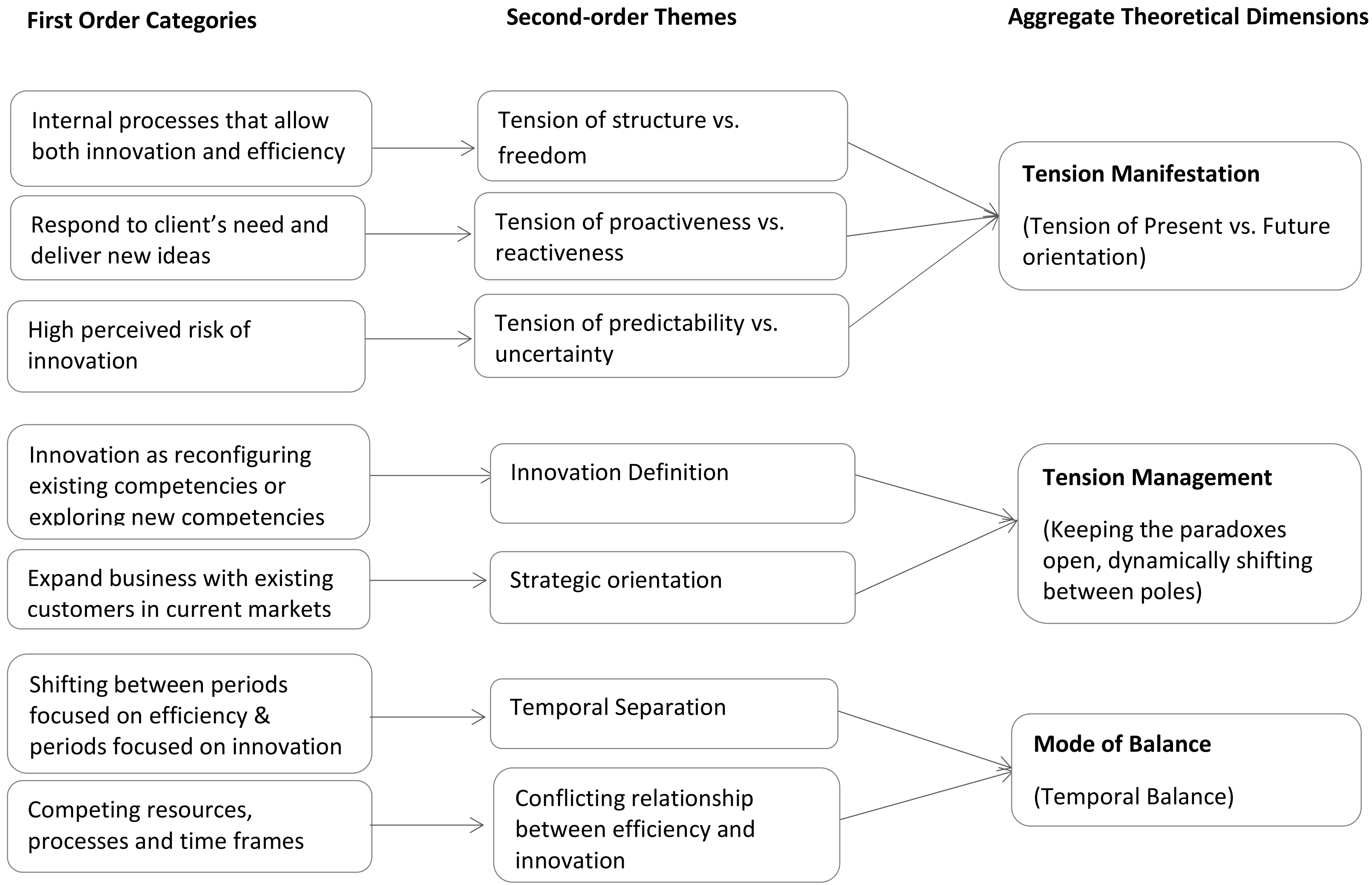
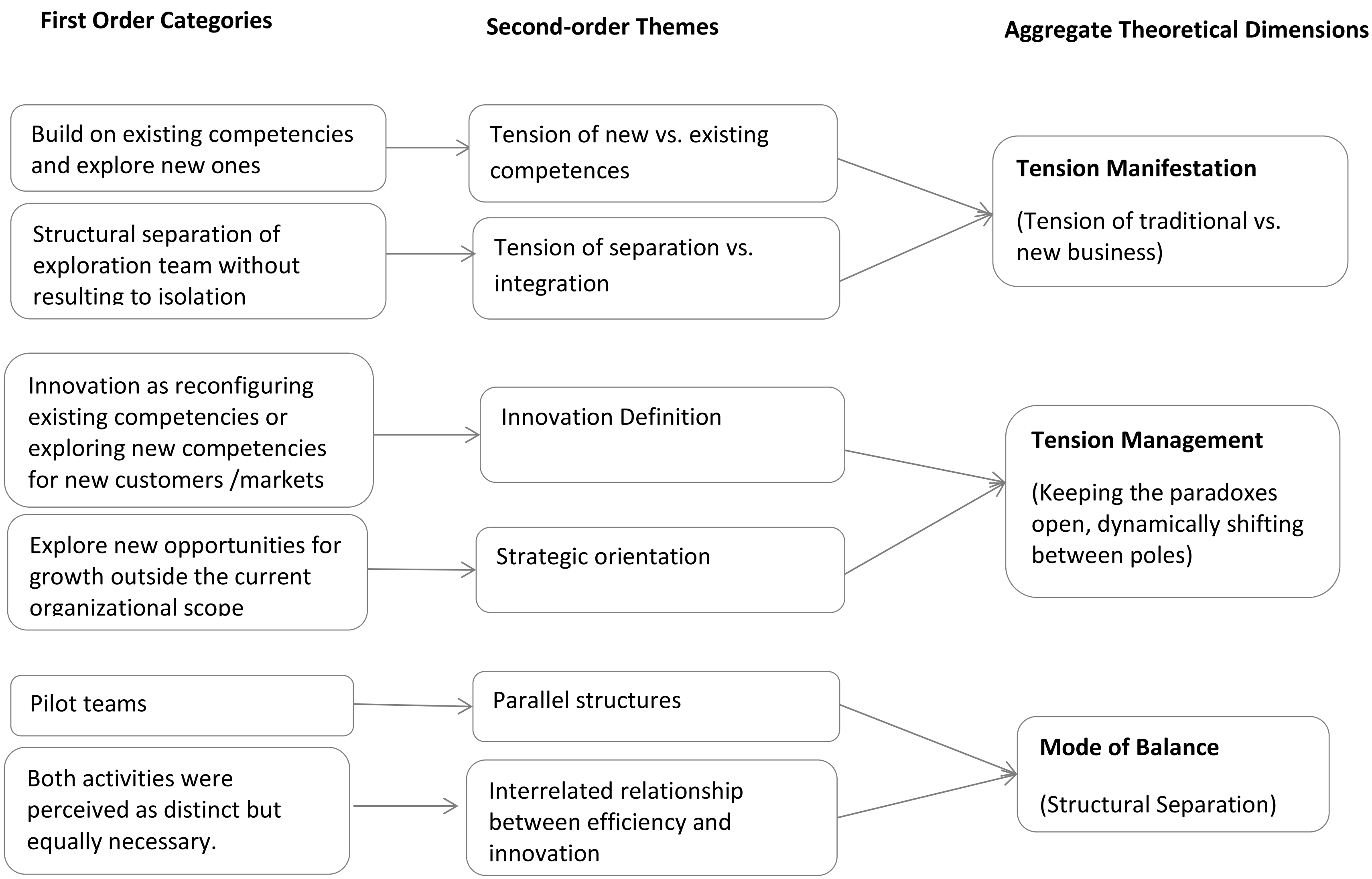


Figure A3. Data structure based on coding process (Senior Management- B)



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